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April 24, 2013

Reference No. 054046

Mr. Bradley Roberts
RCRA Corrective Action & Permits Branch
Air and Waste Management Division
U.S. Environmental Protection Agency Region 7
11201 Renner Blvd.
Lenexa, KS 66219

APR 2 9 2013

AWMD/WRAP-KNRP

Dear Mr. Roberts:

Re:

Monitoring Well Abandonment and Replacement - March 2013

Occidental Chemical Corporation Facility

Wichita, Kansas

The purpose of this letter is to document the recent abandonment of five existing monitoring wells from four nested locations and the installation of two replacement monitoring wells at the Occidental Chemical Corporation (OCC) Wichita Facility (Facility).

#### Scope of Work

The scope of work for the groundwater monitoring well abandonment and replacement activities was outlined in Appendix B (2011 Groundwater Monitoring Plan) of the approved Sampling and Analysis Plan Routine Groundwater Sampling Plan dated March 9, 2012 (SAP). This SAP focused on defining the long term scope of the semi-annual, annual, and biennial groundwater monitoring events and the field procedures to be used to collect the groundwater samples during these events. This SAP supersedes the 2009 SAP with respect to groundwater sampling frequency and procedures and further defined the groundwater sampling program under the Facility's Resource Conservation and Recovery Act (RCRA) Permit obligations (RCRA Permit #KSD007482029). Appendix B provided a summary table listing the sampling frequency for each well and identified several monitoring wells to be abandoned and/or replaced.

The scope and rational for the monitoring well abandonment program set out by Appendix B was as follows:

Location	Task	Rational
MW14S4	Abandon	Well was continuously dry
MW02S3	Abandon	Screen overlaps with MW02S2
MW16S2PVC	Abandon	Screen overlaps with MW16S2SS
MW16S4	Replace	Abandon/Replace damaged well
MW21S4	Replace	Abandon/Replace damaged well



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The locations of these monitoring wells, relative to the entire monitoring well network, are shown on Figure 1.

Appendix B of the SAP also identified that monitoring well MW17S3B was damaged. MW17S3B had an inoperable pump that could not be removed and therefore was scheduled to be abandoned. However, the bladder pump in this well was successfully removed from the well (during the monitoring well repair program conducted in 2012) and replaced with a smaller diameter bladder pump, therefore eliminating the need to abandon and replace this monitoring well. Appendix B also identified that monitoring wells MW18S1, MW18S4, MW19S1, and MW27S1 were scheduled to be abandoned and replaced. However, work associated with replacing these four monitoring wells is pending an evaluation of the results of the ongoing Groundwater Investigation.

#### **Field Activities**

Monitoring well abandonment, replacement, and development activities were completed during the period from March 18 through March 26, 2013. GeoCore, Inc. of Salina, Kansas (GeoCore), under the supervision of a Conestoga-Rovers & Associates Inc. (CRA) geologist, conducted the monitoring well abandonment and replacement activities at the Facility. Monitoring wells were abandoned and replaced in accordance with applicable local and state requirements and performed under GeoCore Kansas License #527. Monitoring well plugging forms are provided in Appendix A.

Monitoring wells were abandoned by the removal of the concrete pads and protective bollards. The well screen and casing was plugged using bentonite chips that were then hydrated. The well casing was then over drilled to approximately 4 feet below grade using a drill rig equipped with hollow stem augers (HSAs). The casing was over drilled so that it could be cut off at a minimum of 3 feet below grade. The area of the previous well pad was backfilled with clean soil and graded to match the existing grade.

Following the abandonment of existing monitoring wells MW16S4 and MW21S4, replacement monitoring wells MW16S4R and MW21S4R were drilled and installed by GeoCore using HSAs. Since monitoring well MW21S4 is located within the right-of-way along South 63<sup>rd</sup> Street, an access permit was obtained from Sedgwick County Public Works. Permit number U1238-13 was obtained for the use of the public road right-of-way and kept on location for the duration of work activities.

The existing stratigraphic monitoring well log for MW16S4 and the cone penetrometer log for CPT-12 were reviewed in advance of drilling to aid in determining the final construction details for the replacement well, MW16S4R. In order to verify the depth of the C3 clay layer, continuous split spoon samples were collected from a depth beginning at 30 feet below ground



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surface (bgs) until the end of the borehole. The collected samples were examined and logged by CRA's geologist until the bottom of the S4 sand unit (uppermost sand unit) was reached at 37.5 feet bgs. The base of the well screen was set at a depth of 40 feet bgs, and a total depth of 42.84 feet below top of casing (btoc) was measured following installation. The monitoring well was constructed using a 5 foot section of 0.010-inch slot perforated polyvinyl chloride (PVC) screen and schedule 40 PVC riser.

Replacement well MW21S4R was set at a depth of 37.5 feet bgs, although the bottom of the S4 sand was not clearly evident. The existing stratigraphic log for monitoring well MW21 and the log for CPT-37 were reviewed beforehand to aid in determining the final construction details for the replacement monitoring well. To that end, the log for MW21 did not clearly identify a C3 clay layer. In addition, the log for CPT-37 also did not identify a depth for the C3 clay layer but instead identified a silty sand layer present at an interval from 31 to 43 feet bgs. The log for CPT-37 identified the top of the S2/S3 sand at a depth of approximately 43 feet bgs. During the advancement of the borehole for MW21S4R, continuous split spoon samples were collected from a depth beginning at 25 feet bgs until the end of the borehole. The collected samples were examined and logged by CRA's geologist. Based on a thorough review of the previous borehole and CPT logs, the C3 clay beneath the S4 sand is not well defined in this area and mainly consists of a silty sand (as noted in the CPT-37 log and as observed in the collected samples). To avoid screening the replacement well in the S2/S3 sand, the borehole was terminated at a depth of 37.5 feet bgs, and the replacement wells was installed at this depth. The monitoring well was constructed using a 10 foot section of 0.010-inch slot perforated PVC screen and schedule 40 PVC riser. The total depth of the completed well was measured at 40.45 feet btoc, and no water was detected in the completed monitoring well.

Both replacement wells were completed using lockable 6-inch diameter above ground protective steel casings. Protective bollards were placed around MW16S4R. Both well casings and the bollards were painted yellow, and locks were placed on each well. Monitoring well stratigraphic/construction diagrams and the Bureau of Water water well record forms are included in Attachment B.

MW16S4R was developed using a disposable polypropylene bailer to remove water while using intermittent surging action to loosen fine grained material from the screen and filter pack. A submersible pump was then used to remove additional water from the formation. Water quality data were measured and recorded during development and included temperature, pH, and turbidity. Water generated from development activities was drummed and staged at a waste storage location on the east side of the Facility. Table 1 provides a summary of the measured well development parameters. Monitoring well MW21S4R was not developed as water has not been detected in the completed well.



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Disposable bailers, pumps, and/or tubing removed from abandoned wells were placed in a dedicated hazardous waste dumpster staged east of the plant near the landfill area. Concrete and metal debris generated by the removal of the well pads and protective bollards were cleaned of any dirt and transported off site for general disposal.

The soil cuttings generated from drilling operations at the MW16S4R location were drummed and moved to a waste storage location east of the Plant pending off-site disposal. The cuttings from MW21S4R were evenly spread in the vicinity of the well location and used as backfill for the abandoned monitoring well pad.

As always, please don't hesitate to contact me or Juan Somoano if you have questions or need further information.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

Bruce Clegg

BCC/ko/10 Encl.

cc:

Mostafa Kamal - KDHE Juan Somoano - GSHI Lisa Blair - OCC Mike Keppel - CRA Walt Pochron - CRA

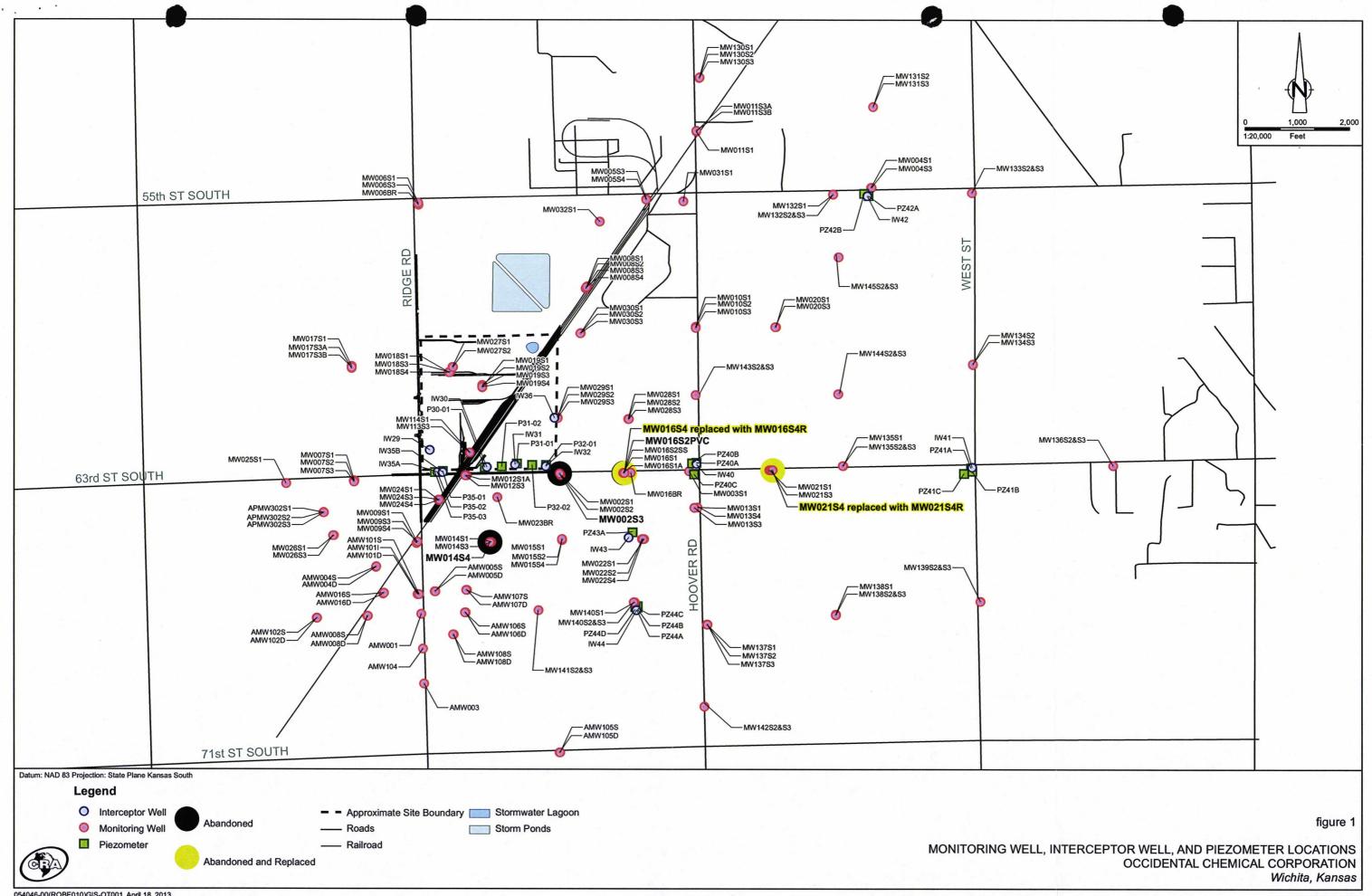


TABLE 1 MEASURED WELL DEVELOPMENT PARAMETERS OCCIDENTAL CHEMICAL CORPORATION WICHITA, KANSAS

Location	Date	Time	Total Volume Purged (Gallons)	Static Water Level (ft BTOC) <sup>1</sup>	pH (Std. Units) <sup>2</sup>	Temp. (°C) <sup>3</sup>	Conductivity (µS/cm) <sup>4</sup>	Turbidity (NTU) <sup>5</sup>	Observations
MW16S4R	3/22/2013	14:35	0	37.87	8.03	15.22	829	Opaque	Turbid, reddish brown, no odor
		14:54	5		7.16	15.38	773	Opaque	Turbid, reddish brown, no odor
		15:42	10		7.51	14.53	779	Opaque	Turbid, reddish brown, no odor
		15:56	15		7.05	15.54	768	Opaque	Turbid, reddish brown, no odor
		16:12	20		6.96	15.16	773	Opaque	Turbid, reddish brown, no odor
	3/26/2013	10:34	0	37.94	7.90	17.14	752	Opaque	Turbid, reddish brown, no odor
		10:37	25		7.34	16.60	766	Opaque	Turbid, reddish brown, no odor
		10:40	30		7.18	16.45	753	Opaque	Turbid, reddish brown, no odor
		10:44	35		7.16	16.24	764	998	Turbid, reddish brown, no odor
		10:49	40		7.25	16.17	761	274	Turbid, reddish brown, no odor
		10:53	45		7.19	16.31	763	181	Turbid, reddish brown, no odor
		11:09	50		7.90	15.43	739	184	Turbid, reddish brown, no odor
		11:13	55 <sup>6</sup>		7.59	15.66	764	60.4	Turbid, reddish brown, no odor

ft BTOC - feet below top of casing
 Std Units - standard units
 °C - degrees Celsius
 μS/cm - microsiemens per centimeter
 NTU - nephelometric turbidity units
 Total volume purged 55 gallons

# ATTACHMENT A

MONITORING WELL SEALING FORMS

W	ATER WELL PLUGGING RECORD For	m WW	C-5P	KSA 82	a-1212 ID NO.	
1	LOCATION OF WATER WELL: Fraction County: Sedgwick Fraction NW 1/4 NW 1/4 NW		Section	Number 34	Township Number T 28 S	Range Number 1 DE VW
	Street/Rural Address of Well Location; if unknown, distance				ystems (GPS) inform	nation:
	direction from nearest town or intersection: If at owner's add	ress,	Latitude:		, ,	(in decimal degrees)
	check here		Longitude:			(in decimal degrees)
	literal (		Elevation:			
			Datum:		S84, □ NAD83,	☐ NAD27
_			Collection	wiethou:	. 0.1 - 1.1	
2	WATER WELL OWNER: Occidental Chemical C	orp.	Hars	unii (Make	e/Model:	
	RR#, St. Address, Box #: 6200 S. Ridge Road City, State ZIP Code: Wightin KS 67315			tai Map/Filo	no, La ropograpnic iv	iap, LI Land Survey
	City, State ZIP Code: Wichita, KS 67215		Est. Accura	<u>cy</u> : 🔲 <;	3 m, 3-5 m, 0	5-15 m. $\square > 15 \text{ m}$
3	MARK WELLICLOCATION 4 PERSON 4					
3	MARK WELL'S LOCATION 4 DEPTH OF WITH AN "X" IN SECTION	WELL 5	00.00	ft.		
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	N WELL WAS			· · · · · · · · · · · · · · · · · · ·	**	
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W	1rrigation			Water Su		
l w				c (Lawn &	, , , ,	ion Well
	SW SE Industrial	L		ditioning	☐ Other	
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	S	u., 0.000011	STOBIOGI SUIT	.pre saomi	ned to Department!	ez   140   1
5	TYPE OF BLANK CASING USED:					
	Steel RMP (SR) Wrought	П.			34 (0 10 1 1	
	PVC ABS Wrought Asbestos-Cement		iberglass oncrete Tile		Other (Specify below)	
	WITTE MADESTOS-CEINEIN		Oncicle The	-		
	Blank casing diameter 6 in. Was casing pulled	i? Yes	Z No □	If ves. ho	w much 3'	
	Casing height above or below land surface	in.		11 9 40, 110		
6	GROUT PLUG MATERIAL:	Cem	ent grout	<b>✓</b> Bentor	nite Other	
			-			
	Grout Plug Intervals: From 3 ft. to 50.65	п., г	rom	_n. to_	ft., From_	to ft.
	What is the nearest source of possible contamination:					
ļ.	Septic tank Seepage pit	Fuel 8	Storage		Other (specify below)	
	Sewer lines Pit privy	Fertili	zer storage	LJ		
	Watertight sewer lines Sewage lagoon		icide storage			
	Lateral lines Feedyard Cess pool Livestock pens		loned water		rection from well?	
	Cess pool Livestock pens	Oil we	ell/Gas well	Ho	w many feet?	
	FROM TO PLUGGING MATERIA	LS	FROM	ТО	PLUGGING	MATERIALS
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	3 50.65 Bentonite (6")			1		
	Desire (b)		· -		MW0253	
					101010203	
				-		
_						
7	CONTRACTOR'S OR LANDOWNER'S CERTIF	ICATIO	N: This w	ater well	was plugged under r	ny jurisdiction and was
cor	inpleted on (mo/day/year) 3/18/2013 an	d this rec	cord is true	to the best	of my knowledge an	d belief. Kansas Water
	iness name of GeoCore Inc.	ter Well I	Record was	completed	on (mo/day/year) 4/1	12013 under the
	mess name of Geocole IIIC.		by (si	gnature) _	Jah A Rol	
IN	STRUCTIONS: Use typewriter or ballpoint pen. Pleas	e nress fi	rmly and pri	nt clearly	Pleace fill in blanks	undanlina an -i1- di
cor	rect answers. Send top three copies to Kansas Department	ent of He	alth and Env	ironment 1	Bureau of Water Can	logy Section 1000 CW
Jac	kson St., Ste. 420, Topeka, Kansas 66612-1367. Teleph	one: 785	/296-5524.	Send one t	o Water Well Owner	and retain one for your
rec	ords. Visit us at http://www.kdheks.gov/waterwell/inde	x.html.				one lot jour
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W	ATER WELL I	PLUGGING I	RECORD Form W	WC-5P	KSA 82	a-1212 ID NO.	
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	City, State Zir Ci	Wich	nita, KS 67215	Est. Accura	.cy: LJ < :	3 m, 3-5 m, 3	5-15 m, $\square$ > 15 m
3	MARK WELL'S	LOCATION	4 DEPTH OF WELL	35.5	ft		
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			WELL WAS USED	AS:			
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			Irrigation	Oil Field	d Water Su	oply  Monit	
W		E	Feedlot	Domest	ic (Lawn &	Garden) Injecti	ion Well
	_ sw	_ SE _	☐ Industrial	☐ Air Con	ditioning	Other	
			Was a chemical/hacte	riological san	nole submit	ted to Department? Y	es D No D
	S		1	ologival sai	npie subiliti	tod to Department: 1	e2   140   1
5	TYPE OF BLAN	K CASING USI	ED:				
	▼ Steel	RMP (SR)	☐ Wrought ☐	Eibanala sa		W5 / O ( O - I - I )	
	PVC	ABS		Fiberglass Concrete Tile	. 🗆	Other (Specify below)	
		_			<del></del>		
	Blank casing dian	neter 2 in.	Was casing pulled? Yes	✓ No L	If yes, ho	w much 3'	
	Casing height abo	ove or below land	surface in.				
6	GROUT PLUG	MATERIAL:	Neat cement Ce	ment grout	✓ Benton	ite 📙 Other	
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$\mathbf{W}_{A}$	ATER WELL PLUGGING	RECORD Form WW	C-5P KS	SA 82a-13	212 ID NO.	
1	LOCATION OF WATER WELL: County: Sedgwick	Fraction  1/4 NE 1/4 NW 1/4 NE	Section Num		ownship Number	Range Number  1
	Street/Rural Address of Well Location	; if unknown, distance &	Global Position	ning Syst	ems (GPS) inform	ation:
	direction from nearest town or intersection check here	tion: If at owner's address,	Longitude:			_(in decimal degrees) _(in decimal degrees)
	Max.	r	Elevation:  Datum:  Collection Meth		, □ NAD83,	□ NAD27
2	WATER WELL OWNER: Occ	idental Chemical Corn			odel:	
_	and the control of th	S. Ridge Road	Digital M	ap/Photo,	Topographic Ma	ap,  Land Survey
	City Chase 71D Caller	nita, KS 67215	Est Acouracy:	7 <3 m	П2-5 т П 6	5-15 m,
3	MARK WELL'S LOCATION WITH AN "X" IN SECTION	4 DEPTH OF WELL 2			, — <u>3-5 m, — 3</u>	9-13 III, LL > 13 M
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	NW NE		_			
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W	/	Feedlot	Domestic (La			on Well
	swse	L Industrial L	Air Condition			
		Was a chemical/bacteri	ological sample s	submitted	to Department? V	es 🗆 No 🗖
5	TYPE OF BLANK CASING US					
		-				
	▼ Steel RMP (SR) PVC ABS	Wrought F Asbestos-Cement C	iberglass oncrete Tile	Othe	er (Specify below)	·
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6	GROUT PLUG MATERIAL:	Neat cement Cem	ent grout 🗹 E	Bentonite	Other	
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	Watertight sewer lines	Sewage lagoon Insect	icide storage			
	Lateral lines	Feedyard Aband	loned water well	Directi	ion from well?	
	Cess pool	Livestock pens Oil we	ell/Gas well	How n	nany feet?	
		GGING MATERIALS	FROM 7	го	PLUGGING	MATERIALS
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7	CONTRACTOR'S OR LANDO	WNER'S CERTIFICATION	N: This water	well	nlugged	
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W.	ATER WELL	PLUGGING I	RECORD Form	WWC-5P	KSA 82	2a-1212 ID NO.	
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2	WATER WEL	LOWNER: Occi	dental Chemical Corp.			ke/Model: noto,	
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	City, State ZIP	Code	nita, KS 67215	Est. Ac	macy: 🔲 <	3 m, 3-5 m, 0	5-15m
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V	/ <del> </del>	E	Feedlot	Don	estic (Lawn &		tion Well
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5	TYPE OF BLA	NK CASING USI	ED:				
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				F71	7		
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6	GROUT PLUC	G MATERIAL:	□ Neat cement □	Cement grou	Bento	onite U Other	,
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	Sewer line			uel Storage ertilizer stor		Other (specify below)	
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	Lateral line	es F	eedyard A	bandoned w	ter well D	irection from well?	
	Cess pool	[ L	Livestock pens O	il well/Gas v	ell H	ow many feet?	
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	3 80	Bentonite					
			1		<del></del>	MW16S2	
	TK.						
				1	<u> </u>		
7	CONTRACTO	R'S OR LANDO	WNER'S CERTIFICA	TION: Th	s water well	was plugged under r	ny jurisdiction and was
COI	npietea on (mo/o	lay/year) 3/10/20	and the	s record is t	ue to the bes	t of my knowledge an	d belief Kansas Water
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-	mess name or _	Sencore IIIC.		b	/ (signature) _	Dale felt	
IN	STRUCTIONS:	Use typewriter or	ballpoint pen. Please pro	ess firmly an	print clearly	Please fill in blanks	underline or circle the
COI	rect answers. Se	nd top three copies	to Kansas Department o	f Health and	Environment.	Bureau of Water Geo!	ony Section 1000 SW
Jac	kson St., Ste. 420	J, Topeka, Kansas 6	66612-1367. Telephone:	785/296-55	24. Send one	to Water Well Owner	and retain one for your
100	orus. visit us at	nup.//www.kaneks	.gov/waterwell/index.htm				
				Che	k one:	White Copy BI	ue Copy Pink Copy

	ATER WELL PLUGGI	NG RECORD F	orm WW	C-5P	KSA 82	a-1212 ID NO.	
1	LOCATION OF WATER WI County: Sedgwick		IE 1/4 NW 1/	Section	KSA 82 Number 35	Township Number	
	Street/Rural Address of Well Lo	ocation: if unknown distance	1E 74 1444 7	Clobal Po	Sitioning S	. T 28 S Systems (GPS) inform	1 DE 7W
	direction from nearest town or i	ntersection: If at owner's a	ddress.	Latitude:	sitioning s	systems (GPS) inform	iation:
	check here			Longitude	:		(in decimal degrees) (in decimal degrees)
				clevation:			
_				Datum: Collection	∐ WG.	S84, NAD83,	□ NAD27
2	WATER WELL OWNER:	Occidental Chaminal	C			e/Model:	
-	RR#, St. Address, Box #:	6200 S. Ridge Road	Corp.			oto, Topographic M	In Diants
	City, State ZIP Code:	Wichita, KS 67215					
				Est. Accura	ісу:	3 m, 3-5 m, 1	5-15 m, > 15 m
3	MARK WELL'S LOCATI WITH AN "X" IN SECTION	ON 4 DEPTH OF	F WELL 3	5	ft.		
	BOX:	WELL'S S	ΓΔΤΙΟ W/Δ'	TED LEVE	r Dry	Δ.	
	N		190			π	
	IX .	WELL WA	S USED AS	);			
	NW - NE -	Domesti L			Water Supp		tering
V	,	Irrigation E Feedlot		Oil Field	Water Su	and the same of th	
.,		E Feedlot Industria			c (Lawn & ditioning		ion Well
	SW SE -	1 1			•		
		Was a chem	ical/bacterio	logical san	nple submit	tted to Department? Y	es No 🗸
5	TYPE OF BLANK CASIN		_				
	THE OF BEAM CASH	G USED;					
	✓ Steel RMP (SR)	Wrought	☐ Fi	berglass	П	Other (Specify below)	
	PVC ABS	Asbestos-Cemer	nt Co	ncrete Tile	,	(opening colon)	
	Rlank casing diameter 2	in Was sasing 11	10 1/	ъ. П		- 21	
	Blank casing diameter 2 Casing height above or below	m.      was casing puili w land surface	ea7 Yes 🖭	No L	If yes, ho	w much _3	
			****				
6	GROUT PLUG MATERIA	I. Nest coment	П		7	nite Other	
•							
	Grout Plug Intervals: Fro	m <u>3</u> ft, to <u>35</u>	_ft., Fro	m	_ft. to_	ft., From _	toft,
	What is the nearest source of						
	Septic tank	Seepage pit	Fuel St	orage	( )	Other (specify below)	u u
	Sewer lines	Pit privy	Fertiliz	er storage	-	Office (specify below)	
	Watertight sewer lines	Sewage lagoon		ide storage			
	Lateral lines Cess pool	Feedyard Livestock pens	-	ned water		ection from well?	
	Coss poor	Livestock pens	_ Uil wei	/Gas well	Ho	w many feet?	
	FROM TO	PLUGGING MATERIA	ALS	FROM	ТО	PLUGGING	MATERIALS
	0 3 Nativ	e soil				.2000110	MATERIALS
	3 35 Bent	onite (2")					
						MW21S4	
	я.			-			
7	CONTRACTOR'S OR LA	NDOWNER'S CERTI	FICATION	: This w	ater well	was plugged under m	v jurisdiction and was
COL	npleted on (mo/day/year) 3/1 Il Contractor's License No. 5	a a	na this reco	rd is true i	to the best	of my knowledge and	belief Kansas Water
bus	iness name of GeoCore Inc	21 . inis w	ater Well Re	cord was	completed of	on (mo/day/year) 4/1/	2013 under the
<del></del>						Vali all	
INS	STRUCTIONS: Use typewri	ter or ballpoint pen. Plea	se press firr	nly and pri	nt clearly.	Please fill in blanks	nderline or circle the
COL	ect answers. Send top three c	obles to Kansas Denartn	ent of Heal	h and Envi	Formant E	durante of Water Cal	C
Jac	cson St., Ste. 420, Topeka, Ka ords. Visit us at http://www.k	uisas 00012-130/. Telep	none: 785/2	296-5524.	Send one to	Water Well Owner a	nd retain one for your
	www.k	unens.gov/waterwell/ind	ex.umi.				
				Check or	ne:	White Copy Blu	ie Copy Pink Copy

All manufalling - Straighthree and the court of the court of the court of the control of the con

# ATTACHMENT B

MONITORING WELL STRATIGRAPHIC AND CONSTRUCTION DIAGRAMS AND WATER WELL RECORD FORMS



#### STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: OCC Wichita

PROJECT NUMBER: 054046

CLIENT: GSH

LOCATION: Wichita, Kansas

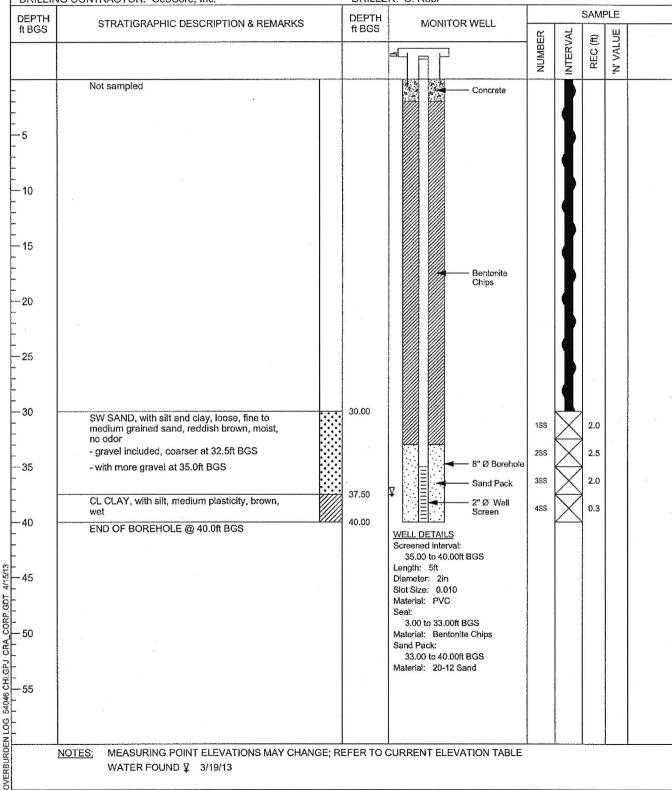
HOLE DESIGNATION: MW16S4R

DATE COMPLETED: March 19, 2013

DRILLING METHOD: 41/4" ID HSA

FIELD PERSONNEL: J. Raye

DRILLING CONTRACTOR: GeoCore, Inc. DRILLER; C. Robl





# STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: OCC Wichita

PROJECT NUMBER: 054046

CLIENT: GSH

LOCATION: Wichita, Kansas

HOLE DESIGNATION: MW21\$4R

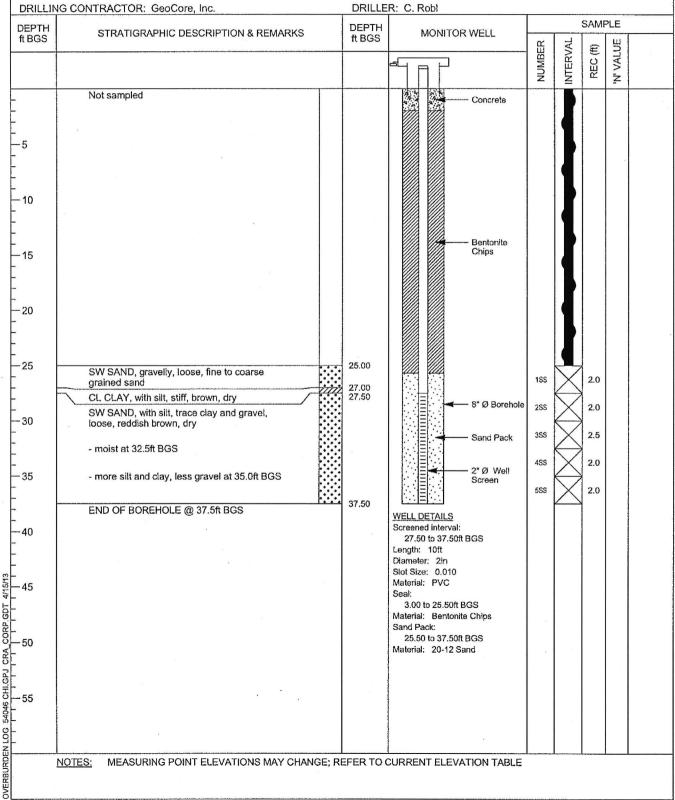
DATE COMPLETED: March 20, 2013

TREESENCE CONTRACTOR OF THE PROPERTY OF THE PR

DRILLING METHOD: 41/4" ID HSA

FIELD PERSONNEL: J. Raye

DRILLER: C. Rob!



		ER WELL RECORD	Form WWC-5	NOM OZA-	1212			
LOCATION OF WATER WE	ELL: Fraction		Sec	tion Number	Township Num	ber	Range N	lumber
ounty: Sedgwick	NE W		VE 1/4	34	Т 28	S	R 1	E(W)
Distance and direction from ne 6200 S. Ridge Rd., Wich	arest town or city street	t address of well if loca	ted within city?	•				
WATER WELL OWNER: (	Occidental Chemical Co	orp.						
R#, St. Address, Box# : 6	5200 S. Ridge Road				Board of Agricult	ure. Divis	ion of Water	Resources
ty, State, ZIP Code : V		V			Application Numb	er:		
LOCATE WELL'S LOCATION	N 4 DEPTH OF C	COMPLETED WELL	40	ft. ELEVA	ATION:			
WITH AN A IN SECTION	Depth(s) Grour	ndwater Encountered	1 , , , ,	, ft.	2	ft. :	3	ft.
T X	WELL'S STATI	C WATER LEVEL	ft. I	below land su	rface measured on	mo/dav/v	r	
	Pur	np test data: Well water	erwasN	A ft. aft	ber	iours pun	npina	gpm
W NE	Est Yield N	Agpm; Well wat	er was	ft. aff	ter,	nours pun	noina	gpm
w	Bore Hole Dian	meter8in. t	o.,40.	ft., a	and	in.	to	ft.
77	E WELL WATER	R TO BE USED AS: 5	Public water		8 Air conditioning		njection well	
	1 Domestic		Oil field water		9 Dewatering	12 (	Other (Specify	below)
SW SE	2 irrigation	n 4 Industrial 7	Lawn and ga	rden only (1	0 Monitoring well	* 1*: 1: 1		
		al/bacteriological samp	ole submitted to			; If yes,	mo/day/yr sa	mole was
S	submitted			Wat	er Well Disinfected	? Yes	No	✓
TYPE OF BLANK CASING		5 Wrought iron	8 Concr	ete tile	CASING JOIN	TS: Glued	I Clan	ped
	RMP (SR)	6 Asbestos-Cement		(specify below			ed	
	ABS	7 Fiberglass	******			Threa	aded. 🗸 .,	
ank casing diameter	2 in. to	35 , ft , Dia	In. 1	ω	ft., Dia		. in. to	ft
asing height above land surfa	ace30,,,	.in., weight			t. Wall thickness or	gauge N	16 Sch	. 40
YPE OF SCREEN OR PERF			(7)PV		10 Asbes		• • • • •	
in the second	Stainless steel	5 Fiberglass		P (SR)	11 Other	(specify)	)	Gerena
	Galvanized steel	6 Concrete tile	9 AB		12 None	used (op	en hole)	
CREEN OR PERFORATION	_		zed wrapped		8 Saw cut		11 None (or	en hole)
1 Continuous slot	3 Mill slot		wrapped		9 Drilled holes			
2 Louvered shutter	4 Key punched	7 Torc	h cut		10 Other (specify)	,		
2 Louvered shutter	4 Key punched	7 Torc	h cut	ft Ero	10 Other (specify)	Α.	44	ž.
2 Louvered shutter CREEN-PERFORATED INTE	4 Key punched ERVALS: From From	7 Torc 35 ft. to ft. to .	h cut <b>40</b>	ft., Fro	10 Other (specify)	ft,	to	
2 Louvered shutter	Key punched FRVALS: From From	7 Torc 35 ft. to ft. to ft. to ft. to 33 ft. to	h cut40	ft., Fro	10 Other (specify) omom	ft. ft. ft.	to	ft ff
2 Louvered shutter CREEN-PERFORATED INTE	4 Key punched ERVALS: From From ERVALS: From From	7 Torc 35. ft. to	h cut40	ft., Fro	10 Other (specify) om om om		to to	ft ft ft
2 Louvered shutter CREEN-PERFORATED INTE GRAVEL PACK INTE	From  ERVALS: From  From  From  From  1 Neat cement	7 Torc	40	ft, Fro	om	ft. ft. ft.	to	f f f
2 Louvered shutter CREEN-PERFORATED INTE GRAVEL PACK INTE GROUT MATERIAL: Grout Intervals: From	RVALS: From From From From 1 Neat cement 0	7 Torc	40	ft., Fro ft., Fro ft., Fro ft., Fro nite 4 to 33.	om	ft.	to	
2 Louvered shutter CREEN-PERFORATED INTE GRAVEL PACK INTE GROUT MATERIAL: Grout Intervals: From	FRVALS: From	7 Torc	40	ft., Fro ft., Fro ft., Fro ft., Fro nite 4 to 33	om	ft,ftftft.	to	f
2 Louvered shutter CREEN-PERFORATED INTE GRAVEL PACK INTE GROUT MATERIAL: irout Intervals: From Vhat is the nearest source of 1 Septic tank	From  From  From  From  From  RVALS: From  From  1 Neat cement  0 ft. to 3.  possible contamination:  4 Lateral lines	7 Torc	40	ft., Fro ft., Fro ft., Fro ft., Fro nite 4 to 33	om	ftftftftftftftftftft.	to	
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2 Louvered shutter CREEN-PERFORATED INTE GRAVEL PACK INTE GROUT MATERIAL: rout Intervals: From /hat is the nearest source of 1 Septic tank 2 Sewer lines 3 Watertight sewer lines	From  From  From  From  From  From  1 Neat cement  0 ft. to 3  possible contamination: 4 Lateral lines 5 Cess pool	7 Torc	40	ft., Fro ft., Fro ft., Fro ft., Fro nite 4 to 33 10 Lives 11 Fuel: 12 Fertil 13 Insec	orn	ftftftftft	to	
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2 Louvered shutter CREEN-PERFORATED INTE GRAVEL PACK INTE GROUT MATERIAL: rout Intervals: From	4 Key punched  ERVALS: From From ERVALS: From From  1 Neat cement 0	7 Torc	40	ft., Fro ft., Fro ft., Fro ft., Fro nite 4 to 33. 10 Lives 11 Fuel: 12 Fertil 13 Insec How man	om	ftftftftft	to	
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2 Louvered shutter CREEN-PERFORATED INTE GRAVEL PACK INTE GROUT MATERIAL: rout Intervals: From /hat is the nearest source of 1 Septic tank 2 Sewer lines 3 Watertight sewer lines irection from well? FROM TO 0 13 Clay, s 13 37.5 Sand,	4 Key punched  RVALS: From From  RVALS: From From  1 Neat cement 0 ft. to  possible contamination: 4 Lateral lines 5 Cess pool 6 Seepage pit  LITHOLOGIC  sandy, silty, Dark Br  w/silt and gravels, R	7 Torc	40	ft., Fro ft., Fro ft., Fro ft., Fro nite 4 to 33. 10 Lives 11 Fuel: 12 Fertil 13 Insec How man	om	ftftftftft	to	
2 Louvered shutter CREEN-PERFORATED INTE GRAVEL PACK INTE GROUT MATERIAL: cout Intervals: From hat is the nearest source of 1 Septic tank 2 Sewer lines 3 Watertight sewer lines rection from well? FROM TO 0 13 Clay, s 13 37.5 Sand,	4 Key punched  RVALS: From From  RVALS: From From  1 Neat cement 0 ft. to  possible contamination: 4 Lateral lines 5 Cess pool 6 Seepage pit  LITHOLOGIC  sandy, silty, Dark Br  w/silt and gravels, R	7 Torc	40	ft., Fro ft., Fro ft., Fro ft., Fro nite 4 to 33. 10 Lives 11 Fuel: 12 Fertil 13 Insec How man	om	ftftftftft	to	
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2 Louvered shutter CREEN-PERFORATED INTE GRAVEL PACK INTE GROUT MATERIAL: rout Intervals: From /hat is the nearest source of 1 Septic tank 2 Sewer lines 3 Watertight sewer lines irection from well? FROM TO 0 13 Clay, s 13 37.5 Sand,	4 Key punched  RVALS: From From  RVALS: From From  1 Neat cement 0 ft. to  possible contamination: 4 Lateral lines 5 Cess pool 6 Seepage pit  LITHOLOGIC  sandy, silty, Dark Br  w/silt and gravels, R	7 Torc	40	ft., Fro ft., Fro ft., Fro ft., Fro nite 4 to 33. 10 Lives 11 Fuel: 12 Fertil 13 Insec How man	om	ftftftftft	to	
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2 Louvered shutter CREEN-PERFORATED INTE GRAVEL PACK INTE GROUT MATERIAL: rout Intervals: From /hat is the nearest source of 1 Septic tank 2 Sewer lines 3 Watertight sewer lines irrection from well? FROM TO 0 13 Clay, s 13 37.5 Sand,	4 Key punched  RVALS: From From  RVALS: From From  1 Neat cement 0 ft. to  possible contamination: 4 Lateral lines 5 Cess pool 6 Seepage pit  LITHOLOGIC  sandy, silty, Dark Br  w/silt and gravels, R	7 Torc	40	ft., Fro ft., Fro ft., Fro ft., Fro nite 4 to 33. 10 Lives 11 Fuel: 12 Fertil 13 Insec How man	om	ftftftftft	to	
2 Louvered shutter CREEN-PERFORATED INTE GRAVEL PACK INTE GROUT MATERIAL: rout Intervals: From /hat is the nearest source of 1 Septic tank 2 Sewer lines 3 Watertight sewer lines irrection from well? FROM TO 0 13 Clay, s 13 37.5 Sand,	4 Key punched  RVALS: From From  RVALS: From From  1 Neat cement 0 ft. to  possible contamination: 4 Lateral lines 5 Cess pool 6 Seepage pit  LITHOLOGIC  sandy, silty, Dark Br  w/silt and gravels, R	7 Torc	40	ft, From tt,	om		to	
2 Louvered shutter CREEN-PERFORATED INTE GRAVEL PACK INTE GROUT MATERIAL: rout Intervals: From /hat is the nearest source of 1 Septic tank 2 Sewer lines 3 Watertight sewer lines irrection from well? FROM TO 0 13 Clay, s 13 37.5 Sand,	4 Key punched  RVALS: From From  RVALS: From From  1 Neat cement 0 ft. to  possible contamination: 4 Lateral lines 5 Cess pool 6 Seepage pit  LITHOLOGIC  sandy, silty, Dark Br  w/silt and gravels, R	7 Torc	40	ft, From tt,	10 Other (specify)  m  m  Other Concrete  ft, From  tock pens storage izer storage ry feet?  PLU		to	
2 Louvered shutter CREEN-PERFORATED INTE GRAVEL PACK INTE GROUT MATERIAL: rout Intervals: From /hat is the nearest source of 1 Septic tank 2 Sewer lines 3 Watertight sewer lines irection from well? FROM TO 0 13 Clay, s 13 37.5 Sand,	4 Key punched  RVALS: From From  RVALS: From From  1 Neat cement 0 ft. to  possible contamination: 4 Lateral lines 5 Cess pool 6 Seepage pit  LITHOLOGIC  sandy, silty, Dark Br  w/silt and gravels, R	7 Torc	40	ft, From tt,	10 Other (specify)  m  m  Other Concrete  ft, From  tock pens storage izer storage ry feet?  PLU		to	
2 Louvered shutter CREEN-PERFORATED INTE GRAVEL PACK INTE GROUT MATERIAL: irout Intervals: From Vhat is the nearest source of 1 Septic tank 2 Sewer lines 3 Watertight sewer lines irrection from well? FROM TO 0 13 Clay, s 13 37.5 Sand, 37.5 40 Clay, s	4 Key punched  RVALS: From	7 Torc	3 Bento 3. FROM	ft, From tt,	10 Other (specify) om		to	files well below)
2 Louvered shutter CREEN-PERFORATED INTE GRAVEL PACK INTE GROUT MATERIAL: rout Intervals: From /hat is the nearest source of 1 Septic tank 2 Sewer lines 3 Watertight sewer lines irection from well? FROM TO 0 13 Clay, s 13 37.5 Sand, 37.5 40 Clay, s	4 Key punched  ERVALS: From From  ERVALS: From From  1 Neat cement 0 ft. to 3  possible contamination: 4 Lateral lines 5 Cess pool 6 Seepage pit  LITHOLOGIC  sandy, silty, Dark Br  w/silt and gravels, R  stiff, Brown	7 Torc	3 Bento 3. FROM	ft, From tt,	om		to	iction
2 Louvered shutter CREEN-PERFORATED INTE GRAVEL PACK INTE GROUT MATERIAL: rout Intervals: From /hat is the nearest source of 1 Septic tank 2 Sewer lines 3 Watertight sewer lines irection from well? FROM TO 0 13 Clay, s 13 37.5 Sand, 37.5 40 Clay, s  CONTRACTOR'S OR LANE and was completed on (mo/da	4 Key punched  ERVALS: From From  ERVALS: From From  1 Neat cement 0 ft. to 3  possible contamination: 4 Lateral lines 5 Cess pool 6 Seepage pit  LITHOLOGIC sandy, silty, Dark Br w/silt and gravels, F stiff, Brown	7 Torc	do	ft, From the ft, F	Other (specify) om om Other Concrete	ft, ft.  14 A 15 O 16 O 16 O  GGING III	to	iction
2 Louvered shutter CREEN-PERFORATED INTE GRAVEL PACK INTE GROUT MATERIAL: rout Intervals: From /hat is the nearest source of 1 Septic tank 2 Sewer lines 3 Watertight sewer lines irection from well? FROM TO 0 13 Clay, s 13 37.5 Sand, 37.5 40 Clay, s	4 Key punched  RVALS: From	7 Torc	do	ft, From the ft, F	Other (specify)  Other Concrete  It, From  tock pens storage citcide storage ry feet?  PLU  AW16S4R, Abovege  constructed, or (3) pecord is true to the completed on amove	ft, ft.  14 A 15 O 16 O 16 O  GGING III	to	iction

The state of the state of the second section of the s

	WATE	R WELL RECORD	Form WWC-5	KSA 82a-			
LOCATION OF WATER WE	ELL: Fraction	90 to 0	Sec	tion Number	Township Numb		Range Number
ounty: Sedgwick stance and direction from ne	earest town or city street		NW 1/4	35	T 28	S	₹ <u>1</u> ₩
200 S. Ridge Rd., Wich		add coo of free if to	roaws within one;				
WATER WELL OWNER:	Occidental Chemical Cor	p. :					
#, St. Address, Box# :					Board of Agricultur	re, Division	of Water Resources
y, State, ZiP Code : \ LOCATE WELL'S LOCATIO	Wichita, KS 67215				Application Number		
WITH AN "X" IN SECTION	BOX.	OMPLETED WELL	37.5	ft. ELEVA	TION:		
X	Depth(s) Ground	Water Encountered			2	ft. 3	
	Pumo	test data: Well w	vater was N	A ft aft	nace measured on n	no/day/yr	ggpn
NW NE	Est. Yield N	Agpm: Well w	vater was	ft. aft	erho	ours pumpir	ggpn
w	Bore Hole Diam	eter 8 in.	. to 37.5	ft., a	nd	in, to	
	200 8000 000	TO BE USED AS:		2.2.5	8 Air conditioning		
sw sE	1 Domestic		6 Oil field wate		9 Dewatering		er (Specify below)
1	2 ingaion	4 Industrial  Vbacteriological sa	Lawn and ga mple submitted to	Denartment	Monitoring well YesNo	· If yes mo	Idaylyr cample wee
\$	submitted	, , , , , , , , , , , , , , , , , , ,			er Well Disinfected?		No 🗸
TYPE OF BLANK CASING	USED:	5 Wrought iron	8 Concre	ete tile	CASING JOINT	S: Glued	Clamped ,
	RMP (SR)	6 Asbestos-Ceme	ent 9 Other	(specify below			
	ABS	7 Fiberglass				Threaded	1. ✓
nk casing diameter sing height above land surfa	ace 30	in weight	In. 1	10	tt, Dia	in.	to1
PE OF SCREEN OR PERF	ORATION MATERIAL	in, weight	(7)PV0	, ibs.//( C	. vvali trickness or g		
	Stainless steel	5 Fiberglass	\	P (SR)			
	Galvanized steel	6 Concrete tile	9 ABS		12 None i		
REEN OR PERFORATION			auzed wrapped		8 Saw cut	11	None (open hole)
1 Continuous slot	3 Mill slot 4 Key punched		/ire wrapped		9 Drilled holes		
	4 Nev bunched	/ 10					
2 Louvered shutter CREEN-PERFORATED INTE GRAVEL PACK INTE	ERVALS: From From ERVALS: From	. 27.5 ft. to ft. to	o37, <b>5</b>	ft, Fro	m m m	ft.to.	
GRAVEL PACK INTE	ERVALS: From From ERVALS: From From 1 Neat cement	. 27.5, ft. to	37.5 037.5 037.5	ft, Fro ft, Fro ft, Fro ft, Fro	mmmmm	ft. toft. toft. to .	
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